

Remarks

The office action and cited art have been reviewed. Claims 1, 8, 9, and 16 have been amended. Claims 3-9 and 16 have been objected to as being dependent upon a rejected base claim, but are otherwise allowable if rewritten in independent form including all of the limitations of the base claims and any intervening claims. Claims 1, 8, 9, and 16 have been amended. Claims 1 and 3-16 remain pending.

Claim rejections under 35 USC § 103

Claims 1, and 10-15 have been rejected under 35 USC 103(a) as being unpatentable over Kelkar and Joshi, entitled "Robust Passification And Control of Non-Passive Systems" (Kelkar hereinafter) taken in view of Son et al. entitled "Stabilization of Linear Systems Via Low-Order Dynamic Output Feedback: A Passification Approach" (Son hereinafter) and further in view of H.R. Pota and A.G. Kelkar, Modelling and Control of Acoustic Ducts (Pota hereinafter).

To establish a *prim facie* case of obviousness, the Office must provide some articulated reasoning with some rationale underpinning to support the legal conclusion of obviousness. See *KSR International Co. v. Teleflex, Inc.*, 550 U.S. at ___, 82 USPQ2d at 1396 (2007). The Office must identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does (*KSR* 550 U.S. at ___, 82 USPQ2d at 1396). And, the Office must make explicit this rationale of the apparent reason to combine the known elements in the fashion claimed, including a detailed explanation of the effects of demands known to the design community or present in the marketplace and the background knowledge possessed by a person having ordinary skill in the art. (*KSR* 550 U.S. at ___,). Any proposed modification cannot render the prior art unsatisfactory for its intended purpose or change the principle of operation of a reference. There must be a reasonable expectation of success. See M.P.E.P. 2143. The Office can satisfy the burden of showing obviousness of the combination "only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references."

Claim 1 is directed to a method to design a feedback controller for extracting acoustic energy and structural energy in an acoustic enclosure. Claim 1 requires, *inter alia*, the step of designing a passivity-based controller that extracts the acoustic energy and the structural energy such that a resulting closed-loop response provides a desired noise reduction.

Without conceding the propriety of the asserted combination, however, it is respectfully submitted that the asserted combination does not disclose at least the aforementioned feature of claim 1, for at least the following reasons.

Kelkar does not teach or suggest extracting acoustic energy and structural energy. See the Kelkar declaration submitted previously. Dr. Kelkar specifically states that the Kelkar paper cited in the Office Action in which Dr. Kelkar is an author does not teach or suggest extraction of acoustic energy and structural energy in an acoustic enclosure. No teaching or suggestion could be found in Son of extracting acoustic energy and structural energy. Pota teaches using a speaker to reduce acoustic noise in an acoustic duct. There is no suggestion of extracting structural energy and acoustic energy as required by claim 1. Therefore, it is respectfully submitted that neither Kelkar nor Son nor Pota, singly or in combination, teach the step of designing a passivity-based controller that extracts the acoustic energy and the structural energy such that a resulting closed-loop response provides a desired noise reduction. In view of the foregoing, it is respectfully requested that the rejection of claim 1 be withdrawn.

Claims 3-7 (which are allowable) and 10-15 depend from claim 1 and are believed to be patentable for at least the same reasons put forth above for claim 1. It is therefore respectfully requested that the objection of claims 3-7 and the rejection of claims 10-15 be withdrawn.

Allowable claims

Claims 8, 9 and 16 are objected to as being independent upon a rejected base claim, but are otherwise allowable if rewritten in independent form, including all of the limitations of the base claim and any intervening claims. Claims 8, 9, and 16 have been amended to be in independent form, including all of the limitations of the base claim and any intervening claims.

Extension of Time and Fee Deficiency

No extension of time in filing this response to the Office Action dated September 11, 2007 is believed to be due. If any additional fee is required, or any overpayment is made, in connection with this communication please charge or credit deposit account No. 50-3505.

Conclusion

The application is considered in good and proper form for allowance, and the Examiner is respectfully requested to pass this application to issue. The absence of additional patentability arguments should not be construed as either a disclaimer of such arguments or that such arguments are not believed to be meritorious. If, in the opinion of the Examiner, a telephone conference would expedite the prosecution of the subject application, the Examiner is invited to call the undersigned attorney.

Respectfully submitted,

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